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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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HOW CANALS DEVELOPED THE NORTHWEST.

The first locks at St. Mary's Falls were opened in 1855, in which year the registered tonnage was 106,296 tons. The half-million mark was reached in 1863, and the one million mark was passed in 1873. In 1881, exactly coincident with the opening of the new and much larger lock, the Northwest began to grow by leaps and bounds, and the tonnage of the canal rose from 2,000,000 tons in 1882 to 9,000,000 in 1890, and to 16,000,000 in 1896. During the past five years two more enormous locks have been in operation, one of them on the Canadian side of the river, and in this short time the tonnage of the canal has leaped up to nearly 28,500,000 tons. This colossal tonnage is simply a manifestation of the development which has taken place in the Northwest, along with which has come the building of thousands of miles of railroad, including two lines from the head of Lake Superior to the Pacific Coast. If by some cataclysm of nature the Great Lakes should be dried up, the enormous traffic now carried on their waters would not be divided among the railroad—it would simply cease to exist. The whole galaxy of cities from Buffalo to Chicago and Duluth would be overwhelmed in hopeless, irretrievable ruin, and the railroads could in no wise escape the general disaster.—Engineering Magazine.

LAKE SUPERIOR LEVELS.

The U. S. gauge at Houghton, Mich., showed a mean stage of water for the month of June, 1902, of 0.89 foot above low water datum, which is 0.28 foot higher than for the preceding month as computed by J. H. Darling, U. S. Assistant Engineer, Duluth. This rise is about the normal amount; which is .34 for the period from May to June, and the lake is following quite closely the regular seasonal movement. The rainfall at Duluth was 3.68 inches, which is .84 inch below the normal for June, as reported by the local forecast officer, Mr. Richardson.

The June stage of the lake, as above noted, was 0.05 foot lower than in June a year ago, or practically the same. It is 0.35 foot higher than the average June stage for a period of 26 years, and is a good stage for navigation.

NORWEGIAN papers are expressing great uneasiness as to the probable fate of Capt. Sverdrup, who has been absent for four years on his journev to the north pole. He was expected back in three years and was provisioned for five. Since August, 1899, the expedition has not been heard from. Sverdrup was Nansen's captain in the Fram, which he now sails officially. It was his intention to sail round Greenland, but it is a certainty that he tried to reach the pole. The expedition was splendidly equipped.

TOLEDO COMMERCE.

The Toledo custom house reports for June, 1902, and June, 1901, shows a growth of business and increase in the size of vessels.

In June, last year, 327 vessels cleared against 294 this year, but the total tonnage increased from 195,006 to 204,453. The arrivals show the same ratio, with an increase in the tonnage from 186,914 to 207,883.

The coal shipments, according to the report, advanced from 119,671 to 125,013 tons. The large hard coal fleet which cleared light from Buffalo and Tonawanda and loaded coal at Toledo, will make the increase in the actual shipments larger than this.

The iron ore receipts show an increase of over 25,000 tons. The following is the comparative statement:

RECEIPTS.

	June, 1901.	June, 1902
Iron ore, tons	103,842	130,866
Hard coal, tons	3,190	
Sugar, barrels	9,600	11,700
Salt, barrels	8,331	7,585
Lumber, feet	20,025,000	10,260,000
Lath	3,698,000	7,561,600
Ties	55,700	34,000
Shingles		75,000
Posts	28,000	
Sand stones	8,220	3,850
Merchandise, tons	5,065	4,479
Cement, barrels		500
Vessels entered	324	293
Tonnage	186,914	207,883

SHIPMENTS.

Coal, tons	119,761	125,013
Coke, tons		555
Wheat, bushels	625,000	75,000
Corn, bushels	53,000	25,000
Rye, bushels		34,000
Timber, cubic feet	51,400	192,000
Flour, barrels	3,230	
Merchandise, tons	3,307	5,275
Vessels departed	327	294
Tonnage	195,006	204,453

ORE DISCHARGING MACHINES.

The United States Steel Corporation evidently intend not to be so completely at the mercy of dock workers in the future as in the past. At the port of Conneaut, O., unloading machines are now successfully at work, and in the case of the steamer James Gayley, discharged her ore cargo without the assistance of shovelers.

When Andrew Carnegie was at the head of the steel company which bore his name, and made Conneaut the port through which most of his iron ore was handled, James Gayley was in charge of the shipments. During the last two years of the independence of the Carnegie Steel Co., George H. Hulett, of Akron, invented an automatic ore unloader of the clam-shell scoop type, and showed it to Mr. Gayley, who was so taken with it that he became sponsor for the machine and installed it at Conneaut.

Then the United States Steel Corporation absorbed the Carnegie Steel Co., and Mr. Gayley was made the head of the ore department, and first vice-president of the company. Lately his importance to the iron industry of the United States was celebrated in a small way by Capt. John Mitchell, of Cleveland, who named one of the finest steamers on the lakes after him. Capt. Mitchell, when building the Gayley, struck upon the idea of adjusting her hatchways to accommodate the new clam-shell machinery. This has been done by enlarging the hatchways, and moving the stanchions so as to give the clam-shell more play in the hold. The maiden cargo of this boat has just been unloaded, and the clam-shell, operating under the more favorable conditions, took out 95 per cent of it without the assistance of ore shovelers. This was accomplishing for the first time what Mr. Hulett claimed for his machine. Thus it is that the machine fostered by Mr. Gayley did its first complete job on a boat named after him.

INTERNAL COMMERCE.

The monthly summary of internal commerce, issued by the Treasury Bureau of Statistics, sums up representative commercial movements for comparative periods of succeeding years. It reports that receipts of wheat at eight interior markets to the end of May in the current crop year reached a total of 211,221,902 bushels. Last year's receipts for the corresponding period were 204,083,037 bushels. All of this gain is to be credited to spring wheat sections of the country, there having been a decrease of nearly 22 million bushels at the winter wheat markets compared with last year. The largest gains were made at Duluth, Minneapolis and Milwaukee, all other markets, including Chicago, Toledo, St. Louis, and Kansas City, falling short of the receipts of the previous year.

Weekly shipments of flour at Minneapolis averages 299,658 barrels for the first 22 weeks of this year, compared with 270,042 barrels in 1901, and 330,377 barrels in 1900. The trunk line shipments eastward from Chicago and Chicago points show the usual high average in provision shipments in contrast with continued shrinkage in the volume of grain and flour traffic.

The advantage of the early opening of lake navigation is apparent. Receipts of freight at 135 different points have, thus far, amounted to 6,795,401 tons, compared with 3,934,601 tons for the corresponding period of 1901, showing a gain of 72.7 per cent. Much of this increase is in iron ore shipments from upper lake ports, which have already amounted to 5,113,979 tons. During May 3, 342,940 tons were carried down the lakes, in contrast with 1,172,532 tons in May 1901, and 2,528,962 tons for May 1900.

The main streams of traffic between the interior and the Atlantic seaboard consists of grain, flour and provisions, which reach tide-water at the ports of Boston, New York, Philadelphia and Baltimore. For this year, to the end of May, these four ports show arrivals of 81,797,536 bushels, including flour and meal reduced to bushels. For the corresponding period of 1901, the receipts were 142,697,371 bushels. There has, therefore, been a shrinkage amounting to 42 per cent. in this year's grain arrivals at the Atlantic seaboard for these four markets. Taking New Orleans and Galveston shipments combined for comparison with Atlantic seaboard receipts at Boston, New York, Philadelphia and Baltimore, there has been a decrease at these Gulf ports from 50,229,139 bushels in 1901 to 30,069,709 bushels in 1902, or 40 per cent.

In the coasting trade coal shipments are a prominent feature in the supply of Atlantic seaboard cities from the great tide-water ports of distribution. During April New York and vicinity shipped 847,410 tons to seaboard and river towns. Philadelphia sent 346,012 tons (two out of three leading carriers reporting) and Baltimore shipped 153,698 tons.

The coal trade during May reports anthracite shipments to the amount of 1,708,892 tons, compared with 4,693,562 tons during May, 1901, and 3,833,097 during May 1900. For the five months ending with May the anthracite coal movement this year reached a total of 18,731,880 tons, compared with 22,680,204 tons in 1901, and 18,200,296 tons in 1900. The average weekly shipments of Connellsville coke for 22 weeks ending with May of this year were 11,056 tons, against 10,519 tons for the corresponding period of 1901.

The Pennsylvania Bureau of Mines has reported 59,684,133 tons of anthracite as the production of the eight districts of that state for the year 1901, of which amount 53,447,900 tons, or 89.6 per cent. of the total production, was shipped from the mines during that year.

Contributory Negligence.—Libelant's husband, a drayman, was killed while assisting to unload from a ship a heavy bedplate, weighing several tons. While the bedplate was suspended by the ship's tackle, a part of the tackle broke, and deceased attempted to avoid the danger by climbing onto the deck of the ship, but was caught and crushed betwen the bedplate and the ship's side. Held, that he was entitled to rely on the safety of the tackle, and was not chargeable with contributory negligence because, in the presence of imminent and unexpected danger, he did not act with deliberation. The Schooner Repert Lewers Co. vs. Kekauoha, 114 Fed. Rep. (U. S.) 849.

BUFFALO.

The schooner Maitland, building for the Franklin Transportation Co., was launched at the Buffalo yard of the American Ship Building Co. on Thursday.

The Lehigh Valley liner Wilkesbarre, which went on the rocks of Caribou Island several weeks ago, was floated out of drydock on Wednesday, after receiving fifty new plates.

A new skipper for the tug Babcock was secured by the Great Lakes Towing Co. on Tuesday. This makes four trust tugs now running, but they are doing very little towing.

Two of the ten steamers recently ordered by the Great Lakes & St. Lawrence Transportation Co. will be built at the Buffalo yard of the American Ship Building Co. It is stated that the keel of the first of the boats would probably not be laid inside of two months as the delivery of the material is not promised until some time in August.

Armed with a photograph of a scow loaded with rocks removed from the Erie basin, the shipping interests of Buffalo are going to make a fight for a state appropriation to dredge the basin of boulders. The Western Transit Co. is one of the prominent figures in the agitation because its steamer Mohawk was pierced by one of the boulders. This rock was removed last week and is shown in the photograph of the scow. It weighs seven tons.

The proposed establishment of Marconi wireless telegraph stations along the Great Lakes has received fresh impetus by the arrival in this city of Daniel Kelly, a representative of the Marconi Wireless Telegraph Co. of America. Mr. Kelly intends spending several days in this city in consultation with representatives of the Lake Carriers' Association and lake steamship companies, and also with individuals who are operating steamships on the Great Lakes.

The Great Lakes Towing Co., which started several of its tugs with non-union men recently, seems to be having considerable trouble with the men. John Pierce, the engineer of the tug Grace Danforth, quit work. Pierce said he has had enough of being called a scab and being under police protection all the time. Robert Clark, the engineer of the tug Hebard, was arrested at the foot of Main street on the charge of being drunk. Clark was bleeding about the nose and mouth and he claimed he was assaulted by someone in sympathy with the striking tugmen.

Three points are to govern the steamboat inspectors at Buffalo in deciding the conspiracy cases against the striking employes of the tug trust. They are: Have the tugmen's acts tended to obstruct commerce? Was an explanation in writing, showing just cause for refusal to work presented to the Great Lakes Towing Co.? Has there been a refusal to allow individuals to enter and remain in the pilot house to learn the business? On these points the decision will hinge. The inspectors say some time will elapse before a final decision is given.

It's too bad that the new Scotch type boilers of the steamers North-West and North-Land are found inadequate for these handsome, large, twin-screw steel passenger steamers. There seems to have been a lack of technical advice, judgment, superintendence or something in the immense outlay of money and changes made in these boats last winter while at this port. Men who have sailed in them say that there is too much of the railroad rules and style about them. Vessels require to be waterborne with all that the statement implies. Trains are in general dragged along on two streaks of rust, except when they get in Finnegan's latitude.

Owing to increasing business the steamer Montana of the Western Transit Line, which has been laid up for some time, was loaded on Saturday. Some lively handling of freight was done by this line on Saturday and Sunday. The Troy arrived in Buffalo at 11 o'clock on Saturday morning, discharged her cargo of grain and package freight and sailed again at midnight. The steamer Boston arrived at 9:30 o'clock Saturday night with a full cargo of grain and package freight, going out loaded at 6 o'clock on Sunday night. The Auburn, also carrying a full cargo, arrived early on Sunday, and at 5:30 o'clock p. m., had finished unloading.

Although the Congress adjourned without taking action on the life-savers' pension bill, friends of the measure in Buffalo and at other lake ports are fairly well satisfied with the progress made, and are confident that it will be promptly taken up when that body again convenes and be speedily enacted into law. Capt. J. J. H. Brown, of this city, through whose persistent and intelligent effort the bill was pulled out of committee, where at first not only the chairman but a majority of the members were openly opposed to the measure, is in receipt of letters from President Livingstone, of the Lake Carriers' Association, Harvey D. Goulder, Esq., and others, in all of which the greatest satisfaction is expressed. Apparently there will be no trouble in securing legislative action early in the next session, and that it will be favorable there can be little doubt. Some members of the committee who at first strongly opposed the measure are now its warm adherents. No one questions the justice of the bill's provisions, and Chairman Hepburn himself bases his opposition simply on the argument that a bad precedent would be established should the life-savers be pensioned.

CHICAGO.

Capt. Frank Higgie has sold the schooner Commerce to George Flood for $3,000. Capt. Flood will cut the boat down to a lumber barge and tow her behind the Sanilac.

The contract for the construction of the Chicago & Northwestern new ore dock at Escanaba has been let. The dock will have a storage capacity of more than 50,000 tons of ore. About 350,000 cubic yards of earth will have to be dredged out to obtain a sufficient depth of water for large ore carriers.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, Chicago, for the week ending July 9th. Prevailing wind direction for the week S.W.; highest velocity 46 miles, from the W. on the 8th; mean temperature for the week, 82°; highest temperature, 89° on the 4th; lowest, 67° on the 8th.

The steel steamer Van Hise, Capt. W. H. Campau, owned by the Pittsburg Steamship Co., with iron ore for South Chicago, is reported ashore at Sleeping Bear Point. Two large boats, one a whaleback, plugged at her all day on Wednesday, but could not release her. Every assistance will be sent. She landed in thick weather but her consort the Bryn Mawr is afloat.

A silver life-saving medal has been presented to Capt. Fred Johnson, of Chicago, by the Secretary of the Treasury, through Superintendent S. J. Kimball, of the life-saving service, in recognition of his gallant conduct in saving lives of the crews of barges No.'s 3 and 4, of the Lake Michigan Car Ferry Line, during a fierce storm on Lake Erie, November 12, 1900.

The steel steamer Ravenscraig went into drydock at South Chicago this week as the result of being ashore at Forty-mile Point, Lake Huron, on her way up the lakes. The Ravenscraig was light when she fetched up. Her wheel was disabled and about a dozen shell plates were broken. The Parnell responded to the steamer's call for assistance, and after two hours' work succeeded in pulling her into deep water. The Parnell towed the disabled boat to Sheboygan, where she was taken in tow by the City of London for this port.

La Rita, George R. Peare's 20-foot cabin yacht, took the third and final race of the series for the Lipton trophy on Monday afternoon. La Rita captured the entire series, finishing with a percentage of .300. She won the last heat easily, although on actual sailing time she was only three minutes and thirteen seconds faster than Sprite, the only other contestant. La Rita's time for the twelve miles was 2 hours, 35 minutes and 15 seconds. Arab IV., in the series was second, with 130 per cent. Arab IV., which had won second in both the preceding races, did not appear for the final contest, as her skipper and crew were dissatisfied with the percentage allowed them in Saturday's contest.

Customs officials have compiled a list of the passenger carrying steamers running out of this port, with the total number of passengers each may carry. The Lake Michigan boats only are considered, and of these there are 29 with a total capacity of 23,177. The biggest carrier in the fleet is the steamer Christopher Columbus, which is licensed to carry 4,000 persons. The smallest is the tug James Hay, which may carry 50 persons in the excursion business, but which as a tug carries but four. The steamers Puritan and City of Milwaukee and the Virginia break even in the contest for second place in capacity with 2,000 each. Other passenger steamers with the numbers they may transport are: City of Chicago, 1,900; C. H. Hackley, 1,500; City of Racine, 1,100, and Indiana, 1,000.

Fifteen days suspension for Capt. Judson Groh, of the tug Leslie, and Capt. H. W. Wanwig of the steamer J. W. Westcott, has been ordered by the Local Steamboat Inspectors, as a result of the collision between the Westcott and the Leslie at Washington street two months ago. The action against Capt. Groh came as a surprise for all the witnesses of the accident including city bridge tenders and officials of the harbor master's department who laid the cause of the collision to Capt. Wanwig. Capt. Groh, it is said, will appeal his case to the Supervising Inspector of this district. Another decision announced on Tuesday by the inspectors, is that Engineer Michael Burns, who deserted the trust tug Rita McDonald, at the solicitations of strikers, leaving a fire under her boilers, cannot have a new license. The engineer's license has expired since the trust began proceedings against him.

Capt. Edward Hart, formerly master of the Hart line steamer Fannie C. Hart, will occupy the position of first mate on the excursion steamer Christopher Columbus this season.

Settled weather with big business is the prediction of the steamboat managers of Chicago for the months of July and August. If this outlook proves a true one they see light ahead after one of the most discouraging Junes they ever encountered. The Michigan berry business, upon which the boats running to the east shore depend largely for cargoes, has been smaller than in years, where the early prospects were for heavy shipments. The future freight prospects for the various lines are said to be brighter than for several seasons.

Last Saturday Capt. James Sinclair, Chicago manager for the tug trust, for the second time since the tugmen's strike took the post as pilot on a trust tug, with Wrecking Master Johnson as engineer. The men brought the tug Monarch from South Chicago for repairs to her engines and boilers. They had no sooner docked the vessel at the trust's repair yard than union workers began work with her fireman and linesman and persuaded the men to desert their posts. Strike leaders declare the Monarch will not be moved out of Chicago river until the strike is settled. The Monarch's place at South Chicago is being taken by the tug Hausler.

The trial of the striking tugmen on charge of conspiring to hinder navigation was resumed before the Local Steamboat inspectors on Wednesday. A new turn has been taken in the case. It appears that the Great Lakes Towing Co. now takes the stand that when its licensed employes announced their refusal to work with non-union men they virtually entered into conspiracy, and it is said the trust is trying to amend the charges along those lines. What is wanted said one of our best tugmen, "is some local inspector with backbone enough to tell the trust people that he is no labor strike settler. As regards the license of any of the men, there is no charge against the license. The men's actions when not engaged under the license is of no moment to local inspectors, it is their action, or inaction that is in question, and not any feature relating in any way to their license. This is a labor dispute, and even the Secretary of the Treasury at the promptings of Chief Dumont can't make a license question out of it when no licenses are in use or question."

DULUTH-SUPERIOR.

The ten steamers ordered by A. B. Wolvin last week will have Babcock & Wilcox water tube boilers.

The Barker and Williams combined dredging fleet now hail from Superior, though their business will be carried on from this side of the bay.

The case against the striking tugmen charged with conspiracy to hinder navigation, which was to have come up again before Local Inspectors Monaghan and Chalk, on Thursday, has been postponed to August 10 by mutual consent.

The tugs now at work are the Crosby, Mystic and McFadden. The men claim that the independent line is in the business for keeps and that they are getting all the towing they can take care of. Nearly all the local striking tugmen will be given work on the tugs. Two shifts of twelve hours each will be worked.

Among the additions to new tonnage enrolled in the Duluth district this week I find the unrigged craft T. F. Newman, 855 gross and 749 net tons, built at Port Huron, Mich. This is the new wrecking and lightering barge built to the order of the Great Lakes Towing Co., for service principally on the Detroit and St. Clair rivers.

The Canadian steamer Myles, which went ashore in the heavy fog last Sunday morning on Shangoinah Island, near Thunder Cape, was released on Monday, by the steamer Energy and the tug Superior, after lightering her cargo. She was leaking and has been brought here to go into drydock at W. Superior for calking and other repairs.

While the barge Tasmania was being towed through the Duluth-Superior bridge on Monday, by the steamer Wallace, the Tasmania sheared and crashed into the structure at the Duluth approach. So firmly was the barge imbedded that a tug was required to pull her out. The vessel was not damaged, but repairs to the bridge will cost $1,000.

The three ore-shipping roads of the head of the lakes, the Duluth, Missabe & Northern, Duluth & Iron Range and the Eastern Minnesota, have forwarded to July 1, a total of 5,006,786 gross tons this year, as compared with 2,764,970 tons for the same period in 1901. At the present rate of shipments they could easily forward 15,000,000 tons from the head of the lakes. The total shipments from the Lake Superior region last year were about 20,500,000 tons. Joseph Sellwood estimates that the ship-

ments this year from Lake Superior will aggregate 22,500,000 tons.

The steel steamer Hoyt will be launched from the West Superior yards of the American Ship Building Co., about the middle of this month. It is expected that four of the Wolvin syndicate Montreal boats will be built here, but there seems a present difficulty about getting material, as even the structural iron and steel to be used in the shipyard improvements is not coming forward.

A dredging contract amounting to over $317,000 has just been awarded to G. H. Breyman, of Toledo, O., by the Massachusetts Harbor and Land Commissioners, Boston, Mass. The contract calls for dredging three sections of 650,000 yards each on Bird Island Flats for an anchorage ground and ship channel. The prices were 15, 15.5 and 16 cents per cubic yard for the three sections, 2, 3, and 4.

The passenger steamer Iroquois, of the White Line, which stranded last Wednesday morning on Victoria Island, was released Saturday evening and arrived here under her own steam. The steamer Bradshaw and the tugs Laura, Grace and Inez got the vessel off the rocks and she was taken to Port Arthur for fuel before being brought here. The steamer does not appear to be damaged, and was started again on her regular route.

The tug strike has interfered somewhat with the ore movements, but it does not appear to have prevented a large increase over this or any other preceding year. The shipping for last month from the Missabe docks shows a substantial increase, while a decrease of 100,000 tons is shown at Two Harbors This was due to the fact that in June there was a much greater demand for the varieties of ore handled at the Missabe docks than at the Iron Range plant.

Capt. M. Fitzgerald, late master of the steamer Hadley, which took part in the collision a few weeks ago, in which the steamer Wilson was sunk and nine men were lost, has appealed from the decision of the Local Steamboat Inspectors, Messrs. Monaghan and Chalk, who revoked his license. The appeal is made to Supervising Inspector Sloane, at Dubuque, Ia., who is in charge of this district. A transcript of the testimony taken at the investigation has been asked for by Inspector Sloane.

The steamer Hadley, which was sunk on Minnesota point a few weeks ago, after her collision with the Wilson, left the drydocks at the Superior Ship Building Co.'s yards on Wednesday last, for Milwaukee. A bulkhead was placed in the steamer to allow her to make the trip to Milwaukee. At that port the Hadley will be placed in thorough repair before going into service again. The Hadley was taken to the Cream city because of the better facilities for repairing wooden steamers at the Milwaukee yards.

The Merrill & Ring Mill Co., of this city, has just figured in a deal involving the purchase of a tract of land of 30,000 acres in California. The land is located in Humbolt county, near Eureka, and was bought at $24 an acre, bringing the price to the large sum of $720,000. With the local business firm are W. H. Gratwick, of Buffalo, a well known vesselman, and Hammond & Co., of Eureka, Cal., who have extensive operations in that country. The timber is redwood, a distinctive variety native to California, and which is not found in the east or middle west.

The large fleet of vessels formerly owned by the Minnesota Steamship Co., Messrs. Pickands, Mather & Co., Cleveland, and recently taken over by the Pittsburg Steamship Co., numbering twenty-two vessels, has just been enrolled at the Duluth customs office. Of the number twelve are steamers and ten schooners. The Matoa, Mataafa, Mariska, Maruba, Manola, Malietoa, Mannatoa, Mariposa, Maritana, Maricopa, Marina and Masaba are all large modern built steel steamers having the highest class and rating. The schooners are: Malta, Marcia, Maia, Manila, Marsala, Magna, Martha, Manda, Maida and Madiera. Capt. A. B. Wolvin, general manager of the Pittsburg Steamship Co., (United States Steel Corporation) resides here and the fleet now hails from the same port as their managing owner.

Admiralty Jurisdiction.—By the custom of a steamship company, it received at its pier baggage sent there by passengers intending to take passage on its vessel, and kept the same until claimed by the passengers. By the rules of the company, the passenger was required to present a ticket, and have his baggage checked, before it was received on board the vessel. Libelant sent baggage to the pier, where it was received; and he subsequently purchased a ticket for one of the company's vessels, which he presented to the baggage master, but his baggage could not be found. Prior to such notice the company had no notice to whom the baggage belonged, or when or by what vessel it was shipped. Held, that whatever the liability of the company, as carrier or warehouseman, libelant had no lien for the loss of the baggage on the particular vessel for transportation upon which he afterward contracted but at the time of the loss of the baggage had not entered on performance of the contract, which would support an action in rem in a court of admiralty. The Priscilla, 114 Fed. Rep. (U. S.) 836.

DETROIT.

The new light-house and ranges being built by the Canadian government at Stribblings Point, St. Joseph Island, are nearly completed.

The new D. & C. steamers will have two smokestacks fore and aft and not athwart ships, like the steamers that are now on the Cleveland-Detroit line.

Gen. Gillespie, Chief of Engineers, U. S. A., is expected here this week, probably on Friday, to make an inspection of the deep waterways in this vicinity, on board the United States steamer Amaranth.

During the month of June the marine postoffice or river service delivered 43,425 pieces of mail and received 13,895. Money orders to the number of 71 were issued for an aggregate sum of $1,407.29. The passengers numbered 3,006.

The Bureau of Navigation, Treasury Department, granted an official number this week to the steamer Columbia, 968 gross and 549 net tons, built at the Wyandotte yards of the Detroit Ship Building Co., and hailing from this port.

The D. & B. Line charge $2.50 to Buffalo and $3 to Niagara Falls. The railroad fare was $7, and they now advertise weekly excursions at a $4 rate. Unless the rates are made equal the D. & B. Line will give the railroads a whirl on summer business.

The Detroit Ship Building Co. is going to make a record on the steamer A. E. Stewart, launched yesterday at Bay City. The new boat will reach here next Sunday for her boilers and engines. The company will endeavor to get the Stewart ready for service in less than nine days, the record time made on the steamer Yosemite last year.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau, Detroit, for the week ending Tuesday, July 8, 1902. Prevailing wind direction for the week S.W.; highest velocity 33 miles, from the south on the 2d; mean temperature for the week, 79°; highest temperature, 91° on the 4th; lowest, 59° on the 2d.

Capt. John Clifford, a well known and highly esteemed pioneer of the lakes, died of paralysis on Monday afternoon. Capt. Clifford had a record of almost forty years' continuous service in these waters. He was a member of the G. A. R., having served throughout the civil war. Illness forced his retirement about a month ago. He leaves a widow, one daughter and three sons.

Secretary-Treasurer H. C. Barter, of the International Longshoremen's Association, has just had published a very attractive booklet containing a directory of the organization and pictures of its officers. Copies are to be sent to the different locals and the headquarters of other labor organizations. The association now has 362 locals enrolled, 110 having been organized since the last annual convention.

The steamer A. E. Stewart, built by the West Bay City Ship Building Co., for the Stewart Transportation Co., of Detroit, was launched on Tuesday afternoon. The Stewart will be towed here to receive her boilers and machinery. With this launching, work at the West Bay yards of the American Ship Building Co. closed for the season, but it is probable that some of the contracts recently secured by that company will be assigned here.

Work commenced a few days ago on the lengthening of the present dry dock at Collingwood, Ont., to 530 feet. The Collingwood Dry Dock Co. has taken off the Bertram Ship Building Co's hands the contract for a large freighter for the Playfair Co., of Midland, to be 375 feet long. They have also the contract for the construction of a cargo steamer about 375 feet in length, for Hagerty & Co., of Toronto. Both vessels to be ready by June 1, 1903.

The small excursion steamer Columbia had her trial trip this week, and given every possible satisfaction to owners and builders. Her general hull dimensions are 216 feet over all, 45 feet beam, 60 feet over guards and 17 feet 9 inches deep. Her engines are triple-expansion, with cylinders 21½, 34 and 54 by 36-inch stroke. She has two cylindrical return tube boilers 13 feet 2 inches in diameter and 12 feet long, tested for 180 pounds steam working pressure to the inch. They are fitted out with the Howden hot draft system. Her excursion permit for Detroit river is for 3,200 passengers.

Supervising Inspector C. H. Westcott, of this district, has received word that Local Steamboat Inspectors at Marquette had revoked the masters' license of Capt. Fred Benson, as a result of the investigation instigated by the tug trust. It was claimed he violated section 4,449 of the Revised Statutes. A rather conservative vessel man says that this one decision will put the tugmen on the run, and that they will likely be kept running until the strike is declared off. Licenses, it seems, are as easily suspended as they are granted. Of course, the case will be appealed to Supervising Inspector Westcott, and Capt. Westcott must retain his appointive job, nor run counter to the wishes or desires of those in influence where his berth is concerned.

CLEVELAND.

The opening up of the C. & B. Line has lent an impetus to the traffic via the D. & C. Navigation Co., both in freight and passenger service.

The submarine workers and divers of this port are now organized and will affiliate with the I. L. A. A delegate will be sent to the I. L. A. convention at Chicago, July 24.

The officials of the Great Lakes Towing Co. announce that the tug Thomas Maytham would be started in a few days. The company now has four boats in service at this port.

Mr. John R. Semple, who was in the employ of L. P. & J. A. Smith, for a number of years, died at his home, No. 5 Bridge street, Monday night. He was 56 years of age, and was well known at Lake Erie ports. The funeral will take place Thursday at 2 p. m., from his late residence.

A meeting of the twenty delegates elected by the locals of the International Longshoremen's Association to represent this port at the convention at Chicago July 14, will be held Thursday night at 8 o'clock, at the corner of Detroit and Pearl streets. The meeting was called for the purpose of making arrangements for the trip.

Ceraunograph is the name Rev. F. L. Odenbach, S. J., has given to his newly invented lightning recorder. He is the director of the meteorological observatory of St. Ignatius College, and one of the famous meteorologists of the Society of Jesuits, which maintain weather observations in various parts of the world.

The strike situation is unchanged. No more tugs have been placed in commission by the towing company and the men and the officials of the company are apparently as far apart as ever. President McDonough, of the local lodge, who was shot last week, is doing nicely at Huron Street Hospital. A special meeting of the licensed men was held Saturday night, but no business of public importance was transacted.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending July 10th. Prevailing wind direction for the week S.W.; highest velocity 38 miles, from the N.W. on the 9th; mean temperature for the week 78°, highest temperature 90° on the 7th; lowest, 65° on the 3rd. Sunrise and sunset data computed for local time, July 12th, sun rises 4:35, sets 7:37; July 15th, sun rises 4:37; sets 7:34; July 18th sun rises 4:40, sets 7:32.

The steamer Mary Elphicke has been fined $500 by the United States customs officials in this port. It seems that the inspection papers of the boat expired June 22. Without having a re-examination and new papers issued she left Duluth on June 24 and came to Cleveland before she was again examined. This was a breach of the law that the officials could not overlook, and they placed the penalty on her. The fine is likely to be remitted if a plausible excuse can be made.

At a special meeting of the Licensed Tugmen's Protective Association held last Saturday evening a resolution was adopted touching the accident which occurred to Michael McDonough, the president of the association, in a recent encounter between the members of the L. T. P. A. on the dock and the crews of the boats of the Great Lakes Towing Co. The resolution is as follows: "Whereas the action of the Great Lakes Towing Co., in putting armed men aboard their tugs, has resulted in the shooting of our beloved president, when he was exercising his rights in a perfectly peaceable and quiet way, and Whereas, as he now lies suffering in the hospital on account of such shooting, therefore be it resolved that we extend to him our tender sympathies. We regret his inability to meet with us and counsel us. We condemn the conduct of the Great Lakes Towing Co., that has brought about such a calamity, as being uncalled for and unnecessary."

The witnesses for the licensed tugmen in refusing to answer questions in regard to the duties of the grand grievance committee of the Licensed Tugmen's Protective Association, were sustained by the local inspectors of steamboats this week. The attorneys for the Great Lakes Towing Co. have been anxious to get a copy of general strike order No. 1, or learn what it contained, but they have not made much headway. At Chicago Grand President McCarle was on the stand for days and most of the time was spent in discussing the order referred to, but very little information was gained from the tugmen's testimony. The local tugmen who were called as witnesses in the case of Capt. Joseph Sweeney refused to answer certain questions regarding the duties of the officers of their association. The inspectors held that the matters referred to had no bearing on the case and told the men that they need not answer the question. Mr. F. S. Masten, attorney for the Great Lakes Towing Co., asked for a postponement for a week, in order to take the matter up with the Secretary of the Treasury. Mr. Masten explained that it would take at least a week to get a reply from Washington and the cases of Capt. Sweeney and Capt. Ryan were accordingly postponed until next Monday.

FLUCTUATIONS OF WATER LEVEL ON LAKE ERIE.

The Weather Bureau, Department of Agriculture, has issued a report entitled "Wind Velocity and Fluctuations of Water Level on Lake Erie," by Alfred J. Henry, Professor of Meteorology from data collated by Norman B. Conger, Inspector and Marine Agent, Weather Bureau, Detroit, and prepared under the direction of Willis L. Moore, Chief U. S. Weather Bureau.

On the subject of physical features the report from which we take the following excerpts states that: "Lake Erie, the most southern of the Great Lakes, has for its greatest length about 250 miles, and its greatest width 60 miles. The total area of the lake is about 10,000 square miles. The contour of its bottom is such that for convenience of description it may be divided into three basins, viz., western, main, and eastern.

The western basin has an area of about 1,200 square miles, and comprises all that portion west of the islands. The bed of this basin is comparatively level and the average depth of water is about 30 feet (9.1 meters). the main or middle basin has an area of about 6,700 square miles and comprises that portion of the lake between the islands on the west and the narrows between Long Point and Erie on the east. The main basin has a shelving bottom, the depth increasing gradually to about 80 feet (24.3 meters). The eastern basin has an area of about 2,100 square miles and comprises that portion of the lake east of the narrows. The greatest depth in the lake, 180 feet (55 meters), is found in this basin off Long Point.

"The disturbances of level on Lake Erie, on account of the shallowness of the water at both ends of the lake, constitute at times a serious menace to navigation. The United States Engineer Corps, in charge of the survey and improvement of the Great Lakes, has maintained for many years a system of tridaily eye observations of the level of the water of the several lakes. During quite recent years automatic gauges have been put in operation on Lake Erie, and also on the connecting rivers between Lakes Huron and Erie.

"The surface of the lake is never in absolute repose. The fact is impressed upon one by a mere glance at the diagrams. The effects of a light breeze is to disturb the smooth surface of the water and to produce minute waves or corrugations in the surface film which disappear immediately upon the removal of the disturbing cause. As the velocity of the wind increases, small waves are produced uniformly over the surface of the water. If now the whole surface of the lake be subjected to a wind blowing uniformly in the direction of its longer axis the surface waters will be pushed along in the direction of the wind, as shown by Sir John Murray in his observations of temperature in the Scottish lochs. It is extremely doubtful, however, owing to the great length of Lake Erie, whether water is actually transferred from one end to the other, but there can be no doubt of the fact that, under the influences of strong winds, the particles of water have a motion of translation and effect a permanent change of place.

"It seems probable that the first effect of a strong wind upon the waters of the lake is to transfer from one end toward the other sufficient water to disturb the condition of hydrostatic equilibrium which existed before the wind began. Shortly after the maximum force of the wind has been exerted the lake tends to return to a state of stable equilibrium. The water that has been piled up on the leeward shore of the lake will immediately recede, although the velocity of the wind may continue high for several hours after the water falls. A condition of stable equilibrium is reached by a series of rockings of the water of the whole lake about a nodal line passing through the center of the lake, the water at either end rising and falling alternately until a condition of rest is attained. As a matter of fact the rockings do not continue uninterruptedly until the lake comes to rest, since the wind in the cold season generally becomes sufficiently strong a day or so after the storm has passed to overcome them. If, however, the winds are light the lake will continue to rock until equilibrium is restored. A good example of continued rocking is shown in the oscillations of September 12, 13, 14, and 15, 1900.

"The storm of November 21, 1900, was the most severe of any experienced during the year. The wind at Buffalo attained a maximum velocity of 80 miles per hour (35.7 meters per second) from the west at 1.37 p. m., and continued to blow at an average of over 60 miles per hour (26.8 meters per second) until nearly 8 p. m. The level of the lake rose sharply and the water in the canal backed up so that it reached the streets in the south portion of the city. The rise began at 8 a. m., when the wind had attained an average velocity of 36 miles per hour (16.1 meters per second) and continued until 4 p. m. At that time the lake level had risen 8.4 feet (2.5 meters) above the stage at 8 a. m. This extreme height was long maintained; the water began to fall shortly after 4 p. m. and continued falling as rapidly as it had previously risen, so that by midnight the stage was 2 inches (50 millimeters) lower than at 8 a. m. The oscillation was completed in sixteen hours. The reflex wave that began immediately after the primary wave had subsided reached a moderate height only, viz., 2 feet (0.61 meter) above zero.

"The level of the lake at Amherstburg did not begin to fall sharply until 10 a. m., when the stage of water was 22 inches (0.56 meter) above zero. The fall continued until 4 p. m., reaching a stage of 33 inches (0.82 meter) below zero, a range of 4 feet 7 inches (1.38 meters). The rise at Amherstburg began at 5 p. m., nearly an hour after the fall had begun at Buffalo, and the water rose as sharply as it had fallen, passing beyond the initial stage and reaching a height of 34 inches (0.86 meter) above zero. This oscillation was completed at Amherstburg in sixteen hours. The extreme difference in level between the two ends of the lake at any one time was 13 ft. and 1 inch (3.98 meters).

"In addition to the great seiches of stormy weather there are numerous small fair-weather seiches, especially in the warm season. The amplitude of the latter does not vary much from 8 to 12 inches, yet a variation of even that amount in the depth of water in the channel at the Lime Kiln Crossing (mouth of Detroit river) may be fraught with danger to the larger vessels.

"In conclusion, it may be remarked that the small seiche is not of great practical importance. While it prevails, the water in the channel at the mouth of the Detroit river, opposite Amherstburg, alternately falls and rises by amounts varying from 8 to 12 inches (20 to 30 centimeters). So small a variation in a channel of good depth would not be noticed, but in a channel where inches are as important as feet ordinarily, a variation of 6 inches is at times a serions matter to the heavier draft vessels. For this and other reasons, the United States Engineer Corps maintains at all times a system of observations of depth of water in the channel and bulletins the result for the information of passing vessels.

"During the prevalence of a great seiche the water in the above-mentioned channel generally falls to such a low stage that the larger craft come to anchor and await higher water. The approximate time of high water at Amherstburg can be forecast by ascertaining the time of extreme high water at Buffalo and applying a proper correction thereto. Likewise, it may be remarked, there appears to be no reason why dangerous seiches at Buffalo could not be predicted by the Weather Bureau officials at that station. The occurrence of a severe seiche can not be foretold many hours in advance, but sufficient time could generally be given to warn property interests along the wharves."

Admiralty—Injury to Seamen—Subsequent Neglect—Liability.—Libelant, a seamen had his arm broken through being struck with a capstan bar by the mate of the vessel, and the master, during the 11 days it was at sea before reaching port, required him to continue work to some extent, threatening to put him in irons unless he did so. The perfect rest necessary to insure a perfect reunion of the disunited parts of the bone was thereby prevented, and the injury greatly aggravated. Libelant told the master that his arm was broken, and it became swollen and inflamed immediately, and remained constantly in that condition. Held, that though there was no fault on the part of the vessel as far as the blow itself was concerned, it was liable for the master's misconduct in compelling the libelant to continue work after he was injured, instead of permitting him to have the necessary rest. The Eva B. Hall, 114 Fed. Rep. (U. S.) 755.

FISCAL YEAR'S SHIPBUILDING IN THE UNITED STATES.

During the fiscal year ended June 30, 1902, the Bureau of Navigation reports that 1,657 vessels of 473,981 gross tons were built in the United States and officially numbered, compared with 1,709 vessels of 489,616 tons for the previous fiscal year.

The decrease compared with last year is in sail vessels and canal boats, barges, etc. This year's new sail tonnage is 101,072 tons; last year's, 128,099 tons. This year's new canal boats, barges, etc., aggregate 57,502 tons; last year's, 88,331 tons. New steel steamers aggregate 275,479 tons compared with 235,265 tons last year.

Included in the total new tonnage are 94 vessels, each of over 1,000 tons, aggregating 315,062 tons, or two-thirds of the output. Of this large construction 41 steel steamers of 158,631 tons were built on the Great Lakes. The lakes have built for ocean trade two West India fruit steamers, "Watson" and "Buckman" of 1,820 tons each; one cargo steamer, "Hugoma," of 2,182 tons, and two large cargo steamers, "Minnetonka" and "Minnewaska," of 5,270 tons each, cut in two to pass the Canadian canals. An accident in transit has delaved the arrival of these two at salt water.

The output of completed steel steamers on the seaboard has been much below the indications of last July. The launching of nearly every large steamer has been delayed from three to eight months and some are still on the ways which by this time were to have been in operation. The delays have been partly due to the steel strike last summer, to the great demand for structural steel in all directions, to low ocean freights and the lack of new shipbuilding orders, which has left builders and owners without motive for haste. Last July 255,000 tons of ocean steel steamers were under construction or under contract, while at present only about 160,000 tons are under construction and no new large seaboard contracts are reported.

The year's new steamers on the seaboard, however, include the trans-Atlantic liner "Kroonland," 12,760 tons, the largest vessel ever built in this country; the Pacific mail liner "Korea," 11,276 tons, of 19 knots, the largest and fastest merchant steamer on the Pacific; "Shawmut" and "Tremont," of 9,606 tons each, built for the opening trade with the Philippines, and "Alaskan," 8,671 tons for the New York-Hawaiian trade, the largest vessel ever launched in Pacific waters. The sister ships "Finland" and "Siberia" to the trans-Atlantic and trans-Pacific mail liners named, have been launched and will be officially numbered and in operation in the early autumn. Two steamers, "Nevadan" and "Nebraskan," of 4,408 tons each, have been added to, and two more of 8,000 tons each are building for the steam fleet to Hawaii around Cape Horn. The remaining nine new ocean steamers of 1,000 tons or more are for local coasting trades.

Two steel full-rigged ships, "William P. Frye" and "Atlas," 3,380 tons each, and five wooden barkentines, of about 1,100 tons each, have been added to our square-rigged fleet. New large wooden schooners number 20, of 34,471 gross tons.

UNITED STATES SHIPBUILDING RETURNS.

TREASURY DEPARTMENT, OFFICE OF THE COMMISSIONER OF NAVIGATION, June 30, 1902.

The Bureau of Navigation reports 1,360 sail and steam vessels of 416,479 gross tons built in the United States and officially numbered during the year ended June 30, 1902, as follows:

	WOOD.				STEEL				TOTAL.	
	SAIL.		STEAM.		SAIL.		STEAM.			
	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.	No	Gross.
Atlantic and Gulf	583	65,265	290	19,021	8	9,223	62	102,647	943	196,156
Porto Rico	5	89	.....	.....	.....	.....	.....	.....	5	89
Pacific	47	26,172	90	9,725	.....	.....	2	10,707	139	46,604
Hawaii	1	9	1	13	.....	.....	.....	.....	2	22
Great Lakes	8	200	65	3 242	.....	.....	52	161,797	125	165,239
Western Rivers	6	114	134	7,927	.....	.....	6	328	146	8,369
Total	650	91,849	580	39,928	8	9,223	122	275,479	1,360	416 479

During the corresponding year ended June 30, 1901, 1,173 sail and steam vessels of 401,285 gross tons were built in the United States and officially numbered, as follows:

	WOOD				STEEL.				TOTAL.	
	SAIL.		STEAM.		SAIL.		STEAM.			
	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.
Atlantic and Gulf	460	74,721	212	11,999	12	13,752	51	90,476	735	190,948
Porto Rico	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pacific	55	26,961	90	11,537	.....	.....	6	7,607	151	46 105
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Lakes	8	158	46	5,124	5	11,236	46	136,620	105	153,138
Western Rivers	69	1,271	112	9,261	.....	.....	1	562	182	11,094
Total	592	103,111	460	37,921	17	24,988	104	235 265	1,173	401,285

Unrigged scows, canal boats, barges, etc., June 30, 1902—No. 207—Tons, 57,502.
" " " " June 30, 1901—No. 536—Tons, 88,531.

MASTERS OF VESSELS.

The responsibility placed upon the shoulders of the master of one of the large vessels on the Great Lakes is enough to make them prematurely old, to make them stooped, and were the same duties imposed upon any individual ashore he would be looked upon as a commercial king; he undoubtedly would have his coach and four and a retinue of servants, and be looked upon in much the same light as a bank president or any other with whom large sums of money and property are intrusted for safe keeping and investment.

But to the lake captain, he who humbly attends to the duties assigned to him, has in his charge in many instances property worth half a million dollars and a score or more of lives, goes but little more than passing mention, aside from tales of fiction and in the circle in which he moves. He is unassuming, unpretentious and there is nothing autocratic in his make up.

The master on one of the large freighters which are constantly plying the waters of the lakes, has under his care for eight or nine months in the year more valuable property than the average bank president. His boat is worth on an average but a few thousand less than a quarter of a million dollars, and the cargo runs oftener more into money of that amount than it does to a lesser amount.

From a time so far back that the memory of man runneth not, salt-water sailors have been in the habit of looking down upon the lake man, feeling toward him much as the soldier does to the home guard, thinking that the dangers are less, that less skill is required and that, taken all around, the fresh water man is a small potato.

Nothing could be more erroneous when the facts are known, and those are most aptly set forth in their relative positions by Richard Linthicum, in Ainslee's magazine, when he says:

"An analysis of the conditions that govern ocean and lake navigation respectively does not justify the frequently assumed superiority of the ocean navigator over his brother of the Great Lakes. The captain of the big ocean liner is a man that inspires confidence and commands respect. The rules of his company frequently compel him to be exclusive and sometimes autocratic. In the face of impending disaster he proves himself to be a clear-headed man with plenty of iron in his blood. He is skilled in the mathematics of navigation, and acquainted with peril, yet there are difficult problems of navigation and ship handling with which he never has to deal. His realm is the open water. When his ship leaves port, in tow of a tug, he is second in command; a pilot stands upon the bridge, steers her through the channels of the bay and walks her down to open water. There is unlimited sea room in which to struggle with the dangerous storm; the coast is hundreds of miles away, and there are no shoals nor reefs nor hidden jagged rocks awaiting a chance to batter or stab the floundering craft to death. As the ocean liner nears her destination, another pilot meets her in the open sea, takes her into port, and with the help of tugs, fore and aft, slowly and laboriously lays her beside her dock.

"Except in rare instances, the lake vessel puts to sea under her own steam, with her captain on the bridge in the dual capacity of captain and pilot. When the storm breaks almost without warning, as lake storms do, the vessel is never far from shore; sea room is scant and lake harbors have narrow mouths, guarded by menacing reefs and shoals. Under her own steam the lake captain takes his vessels into port. With a rudder surface from two to four times larger than that of her ocean prototype, she responds to the turn of the wheel as suddenly and as surely as the trained cow pony obeys the slightest pressure of the rein against his neck. With a deftness that would not crush an egg shell she is laid alongside her dock.

"The mathematics of navigation is the least of a lake captain's knowledge. To master lake navigation he must know the conformation of five thousand miles of coast, every bay, strait, inlet, channel, river and harbor, and every ship path among the innumerable islands of the Great Lakes.

"The hydrographic office at Chicago maintains a school of navigation for lake captains where they may qualify also as masters of ocean going craft.

"There are many people in the lake regions who believe that there will be a time when it will be necessary for the lake captains to have a technical knowledge of salt water navigation. The lake region and tributary country with thirty-five millions of people is the undisputed commercial and industrial center of the nation, and ambitious to dominate its social, intellectual and artistic life, yet the vast commerce between Europe and the interior of this country is all subjected to transhipment. Between Buffalo and the Atlantic seaboard it is forced to pay heavy tribute to railways and to the middlemen who rehandle the cargoes.

"Last year an attempt was made to establish a direct line of steamships between Chicago and Europe. It was partly a failure, not wholly because of the impediments to navigation in eastern rivers and narrow Canadian canals, but chiefly because of the opposition of transcontinental railroads, of middlemen who profit by the breaking of bulk, and of European steamship lines, which latter foresaw in the attempt the beginning of a dangerous competition.

"How many years may pass before the Canadian canals shall be sufficiently enlarged to float lake and ocean vessels without a shifting of cargo, or the Erie canal shall be converted into an ocean ship canal, or a new canal route be cut, only those who control congresses and parliaments and hold legislatures and executives in the hollows of their hands may say.

"The situation awaits a man of destiny. A Pierpont Morgan, a Jim Hill, or a Flagler whose interests were centered in the lake regions would be equal to it in time. A Cecil Rhodes could master it at luncheon."

STATISTICAL REPORT OF LAKE COMMERCE.

THROUGH CANALS AT SAULT STE. MARIE, MICHIGAN AND ONTARIO, FOR THE MONTH OF JUNE, 1902.

The freight tonnage passing through the American and Canadian ship canals for the fiscal year ending June 30, 1902, is by far the largest ever recorded for the same period, and is the cause of much comment. The records show that since June 30, 1901, to the end of June this year, freight to the amount of 33,122,446 net tons passed the canals.

The magnitude of the freight movement is causing the entire country to wonder. The increase is coming so rapidly that the question naturally arises as to how long the present locks will be able to accommodate the traffic. In well informed circles, it is the belief that were the construction of a new lock to replace the Weitzel lock to begin next year, it would not be completed any too soon to take care of the Lake Superior business. When the facts and figures are placed before Congress there is hardly a question but the necessary funds for the prosecution of the project will be appropriated.

The canal report for the month of June contained many surprises. Nothwithstanding the blockade of nearly a week, caused by the accident to the railroad swing bridge, only one other month in the canal's history (July of last year) exceeds the volume of business transacted. The tonnage for the month amounted to 4,721,608, as against 4,519,075 for the same period of 1901.

The total tonnage passing the canal this season is 11,486,501 as against 6,767,120 for the same period last year, an increase of 4,719,381 tons. Should the same ratio of increase be shown for the balance of the season the total for the year would be over 40,000,000 tons. This is hardly probable, however, at this writing.

The itemized statistical report of the June traffic follows:

EAST BOUND.

Articles.		U. S. Canal.	Canadian Canal.	Total.
Copper	net tons	15,090	1,744	16,834
Grain	bushels	464,093	151,500	615 593
Building Stone	net tons	9,350	780	10,130
Flour	barrels	678,092	377,175	1,055,267
Iron Ore	net tons	2,662,107	686,154	3 348,261
Iron, Pig	net tons	2,405	551	2,956
Lumber	M. ft. B. M.	119,992	32,676	152,668
Silver Ore	net tons	.....	.....	.....
Wheat	bushels	2 267,368	3,369 604	5,636 972
Genl. Mdse	net tons	4 717	7,260	11,977
Passengers	number	1,658	2,923	4,581

WEST BOUND.

Coal, hard	net tons	6,146	500	6,646
Coal, soft	net tons	472 728	181,486	654,214
Flour	barrels	.....	.....	.....
Grain	bushels	60	.....	60
Manf'd. Iron	net tons	20,354	1,806	22,160
Salt	barrels	40,166	29,885	70,051
Genl. Mdse	net tons	54,089	30,316	84,405
Passengers	number	2,104	2,358	4,462

Freight.				
East Bound	net tons	3,043,871	900,133	3,944,004
West Bound	net tons	559,173	218,431	777,604
Total Freight	net tons	3,603,044	1,118,564	4,721,608
Vessel Passages	number	2 206	943	3,149
Reg'd Tonnage	net tons	3,238,046	1,019,294	4,257,340

Compiled at St. Marys Falls Canal, Michigan, under direction of Major W. H. Bixby, Corps of Engineers, U.S.A.

JOSEPH RIPLEY, General Supt.

The Knapp Tubular Steamship Co. has secured the services of Capt. Thomas Donnelly, of Kingston, Ont., as its superintendent. Capt. William Augustus, has been promoted to the position vacated by Capt. Donnelly, that of chief inspector of Lloyd's inland marine insurance.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLATED SPECIALLY FOR THE MARINE RECORD.)

Precedence in Discharging.—Under a provision of a bill of lading for a cargo consigned to a railroad company, giving the vessel the right to be discharged in her turn, the fact that such cargo is owned by the company, while that of another vessel arriving later is merely consigned to its care, to be shipped over its road, does not entitle the company to give the latter preference in discharging. Evans vs. Blair, 114 Fed. Rep. (U. S.) 616.

Negligence—Breaking of Ship's Tackle.—The breaking of a chain furnished and used by the officers of a ship in unloading a heavy article of which removal they had sole charge, if unexplained, is prima facie evidence of negligence, which authorizes a judgment against the owners of the ship for damages for the death of a person caused thereby, in absence of proof of contributory negligence. The Schooner Robert Lewers Co. vs. Kekauoha, 114 Fed. Rep. (U. S.) 849.

Collision—Navigation in Fog—Construction of Rules.—Under the second clause of article 16 of the international navigation rules, which requires a steam vessel, "hearing apparently forward of her beam the fog signal of a vessel, the position of which is not ascertained" to stop her engines, and then navigate with caution until danger of collision is over, it is the duty of a vessel to stop under such circumstances, in all doubtful cases, until both the position and course of the other is known. The El Monte, 114 Fed. Rep. (U. S.) 796.

Branch Pilots.—In a suit by commissioned branch pilots to restrain a pilot from acting as a branch pilot, to the detriment of their business, a contention that, the federal government having deepened the Galveston bar and extended the harbor lines, plaintiffs were without authority to demand half pilotage from vessels outside the bar which refused their services, is without merit, as such government work did not affect the applicability of the state statutes to the harbor. Olsen vs. Smith et al., 68 S. W. Rep. (Tex.) 320.

Confederation.—In a suit by commissioned branch pilots to restrain a defendant who had not been created a branch pilot from acting as such that complainants have improperly combined to monopolize the pilotage and prevent competition, though such might subject them to removal by the governor, cannot, while they remain in office, affect their right to perform its duties, or to protect themselves in its emoluments, on the ground that it is illegal and in restraint of commerce among the several states. Olsen vs. Smith et al., 68 S. W. Rep. (Tex.) 320.

Salvage—Amount of Award.—Libelant's tug towed a schooner from a pier, near which coal pockets were burning, out into the stream. The service ocupied but a few minutes, and was attended with no danger. There was evidence tending to show that the schooner was not in serious peril, and, having an engine, could have moved out by her own power. Held, that while the service was a salvage service, and the tug was entitled to better pay than for mere towage, an award of $50 was sufficient compensation. The William P. Hood, 114 Fed. Rep. (U. S.) 983.

Freight Pending—In respect to pending freight, which must be surrendered by a shipowner in order to secure the statutory limitation of liability, the law is that freight pending is freight earned; and when the voyage is broken up by the wrecking of a ship before reaching her destination, there is ordinarily no freight earned, for, even though prepaid, in the absence of special contract, it may be recovered back by the shipper. Pacific Co. vs. Reynolds et al., 114 Fed. Rep. (U. S.) 877.

Maritime Liens—Loss of Passenger's Baggage—Delivery to Vessel—As regards liens upon a vessel for breach of contract of affreightment, there is no distinction in principle between a contract for the transportation of a passenger with his baggage and one for the transportation of merchandise, and, by analogy with the rule in the latter case, no lien arises for loss of baggage unless at the time of such loss either the passenger had been received on board, or his baggage had been put into custody or control of the vessel. The Priscilla, 114 Fed. Rep. (U. S.) 836.

Passage Money Received from Passengers.—Where a ship, at the time she was stranded and the voyage terminated, was carrying passengers, who had prepared their passage under contracts providing that in case of the loss of the vessel the passage money should not be refunded, such passage money must be considered the same as freight earned, and surrendered by the owner in proceeding for the limitation of liability; and no deduction can be made because certain of the tickets were given to the passengers by the shipowner, nor on account of a sum paid by such owner for the transportation of the passengers from the place of the stranding to their port of destination. Pacific Coast Co. vs. Reynolds, et al., 114 Fed. Rep. (U. S.) 877.

MARINE RECORD

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CLEVELAND, O., JULY 10, 1902.

IN the collision case of the schooner J. F. Card and the steamer Hiawatha, which occurred off Thunder Bay last season, Justice McDougall, of Toronto, in an exhaustive judgment, decided this week that both vessels were blameable, and that the schooner is only entitled to one-half the amount of the damage she sustained. This case was tried at Sandwich, Ont., last February, and was appealed with the foregoing result. Judge McDougall bases his decision on the finding that both the steamer and the schooner were running at an immoderate rate of speed during a fog, and consequently the court dropped back on the hackneyed, time worn and unsatisfactory ruling known as "contributory negligence."

OF COURSE sailors are all more or less soldiers, hence the lubberly pleading for the terms port and starboard to be changed to the words left and right, some good men go wrong, so, also, in this instance do we find those with the gutts of a tarboiler arguing in favor of and advocating the soldierly phraseology. The Compass Office of the United States Navy Department proposes a compass card having thirty-six instead of the thirty-two divisions, as at present, and to word or designate courses by numbers, as for instance, course 162°, course 18°, course 45°, etc.; zero being at north and degrees counted continuously around the circle. This method to be adopted so that landsmen could more easily understand how to box the compass, when, "taking a trick at the wheel."

BETS are offered that some of the Local Inspectors of Steamboats will be green enough to cancel a tugboatman's license in the present labor dispute between that class of men and the employes of the Great Lakes Towing Co. The men are on trial for not going to work on the terms offered by the Tug Trust. The license feature is entirely out of the question, in fact the licenses are not being used. What then is this flummery being indulged in by well paid government employees for? The Great Lakes Towing Co. may be almighty, but it surely does not represent the seat of national government, they have no chains around the necks of their former employes. Because it has a strike or labor trouble on its hands there is no reason why the whole force of a government department, and even the Secretary of the Treasury should be embroiled in the matter. There are numerous other labor strikes existing just now, but none are being quietly conducted in so peculiar a manner as the prosecution of the licensed tugmen.

LAKE ERIE LEVELS—SEICHES.

The latest addition to the general knowledge of the physical geography of the lakes has been collaborated by the officers of the Weather Bureau under the direction of Willis L. Moore, Chief of the service, entitled "Wind Velocity and Fluctuations of Water Level on Lake Erie." The accompanying line drawings are given for each month in the year and date from December, 1899, to November, 1900.

The several delineations of the surface fluctuations, the causes and the probability that dangerous seiches at Buffalo can be predicted, is of incalculable importance to vessel and commercial interests in general. so that the work of the Weather Bureau in this connection is to be highly commended, and more especially so, if, as we surmise, it is the intention of the Department to so treat each lake in succession.

In the compilation of this excellent report acknowledgement is made to Mr. Wm. T. Blunt, an assistant officer of the Engineer Corps, U. S. A., for data as to the physical features of Lake Erie, who also furnished a chart of the general contour of the lake, its coast line, curves of soundings, etc. Mr. Conger, of Detroit, collated the data from which the diagrams were made.

The portion of the report on seiches, though not entirely an original research, reaches into a new field of observation and study in so far as the lakes are concerned. This phenomenon was first observed on Lake Geneva and was called by the inhabitants of the shores of that lake "Seiche," which name has since been commonly adopted by modern writers. The word signifies any rythmic oscillation of level of short duration obviously not produced by fluctuations in the water supply of the lake. The phenomenon of seiches has received very complete and exhaustive investigation at the hands of that accomplished physicist of Lausanne, Prof. F. A. Forel. Professor Forel has demonstrated that these rythmic oscillations occur in all Swiss lakes and that they follow in all cases the same general laws.

The seiches on Lake Erie, to which attention is called in the report, are those of great amplitude. By amplitude is meant the difference in height between the maximum and the minimum level of the water in a complete oscillation. Seiches of great amplitude occur only in connection with gales of 40 to 50 miles per hour. They rarely occur in summer; probably the greatest that has been observed for many years in the warm season occurred on September 12, 1900 (in connection with the storm which caused such terrible havoc at Galveston, Tex., on September 8, 1900).

In every landlocked body of water there is one natural period for longitudinal oscillations and a second for transverse oscillations, depending, as has been shown by Professor Forel, upon the dimensions of the lake and the mean depth of water along the axis of oscillation. The natural period, or, as it is sometimes called, the free oscillation of a water surface, is approximately the same both for great and small seiches; in other words, the time of vibration is independent of the amplitude of the seiche. The small seiches appear, however, to have a free period slightly shorter than the larger ones. To obtain a rough approximation of the period of the small seiches, measurement was made of about eighty of the most perfect examples. The average time of oscillation was found to be between fourteen and fifteen hours. Thus at Amherstburg, when small seiches prevail, the river will probably fall during a period of seven or eight hours and rise through a period of six or seven hours. The rising period seems to be somewhat shorter than the falling period.

Fair-weather seiches are evidently a result of wind action yet is is not always clear that the wind is the original disturbing cause. They almost always occur when the wind is blowing parallel with the longer axis of the lake, with velocities ranging from 10 to 15 miles per hour. In some cases, however, it is not easy to trace them back to their ultimate origin. Variation in the atmospheric pressure, exerted on the respective ends of the lake, has been suggested as a disturbing cause.

It will no doubt surprise many of our readers to learn that the difference in the surface level of Lake Erie, a sheet of water only 250 miles in length, showed a total of 13 feet 1 inch between the two ends of the lake at one time, or, during the gale of November 21, 1900. This comparatively vast fluctuation of levels, where inches are taken into account in the daily transportation of lake and interlake commerce, goes to prove how well worth the study the laws ruling or governing such natural fluctuations becomes in the interests of lake commerce, even as apart from the scientific trend of the important deductions to be derived therefrom in the present and near future.

To the Weather Bureau, Department of Agriculture, are we further indebted for the well advised methods determined in its action to portray, by means of colored charts, the general set of surface currents on the chain of lakes, also the annually improved wreck charts showing the location of all wrecks and serious strandings resulting from weather conditions. These delineations are valued from a practical or navigational standpoint as pointing out the localities of special danger, and, where aids to navigation should be most proficient, such for instance, as the best light-houses and fog signals, also life-saving, signaling and telegraph stations, as well as the points to maintain towing, wrecking and salvage appliances, etc.

Quoting again from the same standpoint, the observations now taken of the limits and density of fog banks on the several lakes is of prime importance to the present commerce and likely, if not certain, to prove of enhanced value in the future development of the lake trade.

The foregoing are some of the main features of the work of the Weather Bureau on the lakes during the past few years, and we find an inclination evinced by the Department to more fully and worthily enter into other fields of development, within its province, which may redound to the general welfare of commerce and add to the scientific knowledge of the economies embraced in a complete controling knowledge of the physical geography of the lakes and its or their effect on the surrounding country as relating to an agricultural or ground producing standpoint, etc.

THE much talked of "Morganizing" the several Atlantic lines of steamers now drops back to a community of interests basis, wherein the Britisher is to reap as much advantage from the combination as the American. In other words, the recent action of Mr. Morgan, and of course his syndicate, must be viewed from a trade or commercial deal, rather than from an influentional national aspect. A London dispatch of Tuesday says: "In the house of commons to-day the parlimentary secretary to the admiralty, H. C. Arnold-Foster, replying to William Redmond, the Irish leader, confirmed the report that J. Pierpont Morgan had offered to place all the British ships in the new combine at the disposal of the admiralty for the next fifty years on certain terms. He added that the offer had not yet been accepted, because it only could be dealt with in relation to British shipping generally and the Atlantic trade position, which was being very carefully considered by the government." These ships are still flying the British ensign and accordingly are British owned bottoms in the eyes of the law. There is no saying, however, what action Congress might have taken had it been thought advantageous to give the foreign built fleet an American register before the close of the recent session. There is some satisfaction in finding positions for the few officers in the United States mercantile marine in vessels controled by citizens of their own country, even if not sailing under the stars and stripes, notwithstanding, the same chances existed for Americans when the fleet was British owned, as that country does not discriminate regarding the nationality of its officers in the mercantile marine. A capable Hottentot, or any other furriner, is eligible to take command of a merchant vessel sailing under the British flag.

THE WEATHER BUREAU, Department of Agriculture, has stationed at Detroit a worthy, capable, and experienced weatherologist, who is detailed to collate certain data relating to the physical geography of the lakes. This officer is a district inspector also the forecast official at Detroit and tacked onto this is the appellation "Marine Agent." Now, to our mind, "Marine Agent" smacks a good deal of a misnomer. It is a trading, commercial or professional term, in such a connection as the foregoing, as distinct from a governmental department one. Besides, does not Shakespeare say, "Trust no agents" and we would hate to have to believe such a doctrine as being applicable in any sense to the estimable prognosticator of

wind and weather conditions on the lakes. It is not necessary to load this good man down to the scuppers with a public appellation of ponderous weight or to intrench on the significance of terms in use by other government departments, and we would resent the fulsomeness implied for instance in such a tail end to his name as "meteorological prevaricator," or director of the physical geography of the Great Lakes, chiefly because of their length, etc., but there is surely a word of a syllable or two that would more nearly convey the line of work, duties, studies and official standing of this government officer than agency implies, especially in the sense which we have quoted.

A CONSPIRACY to hinder the commerce of the United States is a grave charge to bring before Federal officials against a few men engaged in the towing business of one firm. The Secretary of the Treasury, Hon. Leslie M. Shaw, must surely feel that he is engaged in very small business when rendering decisions pro and con in the matter of a local tugboatman's strike at some lake ports. It would appear as if the next step would be to endeavor to force owners of floating property to accept any proffered rate of freight under the pains and penalties of the laws relating to delaying or hindering of commerce should they elect not to carry cargoes forward at shippers option as regards time, place and rate of reunmeration, barring all losses.

IT appears as if the Local Inspectors of Steamboats were getting license cancelling mad, and it would be in order for licensed officers, or some of the associations to which they belong to enter an action in their behalf against the individual inspectors for defamation of character and forfeiting the rights of the officer to work at his chosen calling.

NAVAL OFFICERS TO SEE SERVICE.

The present Secretary of the Navy, William H. Moody, believes in placing the officers of the navy in the service which their calling demands.

Secretary Moody recently sent to each bureau chief in the Navy Department the outline of a general plan for the reorganization of the department into two divisions—one of which was to be that of personnel, controlling all officers and men and all ships in commission under the immediate direction of the Bureau of Navigation, and the other a division of material consisting of all the other bureaus in the Department under the direction of the assistant secretary. He asked for comment. With one or two exceptions, the bureau chiefs opposed the plan. They felt it would be unjust to place the chief of the Bureau of Navigation on a par with the assistant secretary, while the others were subordinate to the assistant secretary. Secretary Moody was influenced by the opinions he received. He withheld the order for the change.

The point of the Secretary's policy most agitating the minds of officers now is that of sea service. With the President firmly upholding him, Moody believes that no officer should stay ashore whose work can be done equally well by a civilian.

He now has under consideration a proposed law whereby each officer will have to serve a fixed period at sea in each grade. This has the great merit of doing away to a certain extent with the obnoxious social influence by which officers frequently get desirable shore berths for long periods, thus compelling other officers to stay at sea much longer than their regular tours.

LUMBER FREIGHTS.

The present rate of $2.50 per 1,000 feet on Lake Superior lumber cargoes will remain in force until September 1, when it will advance to $3. This was the decision reached at a harmonious meeting of the Lake Lumber Carriers' Association at Chicago yesterday afternoon, and after a unanimous vote in favor of the advance had been polled. Twenty members of the association were present, including the full board of general managers, and the situation was thoroughly gone over before the foregoing action was taken. It was found that the plan of withdrawing tonnage for the purpose of holding up rates during the summer dullness had been carried out successfully, and that loads are now equal to the number of vessels wanting them. The demand is steadily growing better, and the vessels withdrawn from the trade will be added gradually and as required.

The Supreme Court at Ottawa has reversed the decision of the Court of Exchequer, and upheld the contention of the Government that the steamer Minnie M., brought into Canada by the Algoma Central and Hudson's Bay Ry. Co., is liable to duty.

A NAVAL TRAINING STATION.

The Secretary of the Navy will shortly announce the appointment of a board of three naval officers to deliberate upon and select a site for a naval training station on the Great Lakes. This board will at once proceed with its work. The appropriation for a naval training station was contained in the naval bill just passed.

The location of the station is not even tentatively decided, but it is safe to say that it will be located on Lake Erie, lower Lake Huron or Lake Michigan. The northern portions of the Great Lakes are practically impossible because the climate is so rigorous during the long winters. The station will hardly be located on Lake Ontario for the reason that the naval training stations on the eastern coast already draw recruits from that state. It is intended that the training station be located at a point where it can draw on hitherto unrecruited territory.

Erie, Pa., and Detroit, Mich., are both desirous of having the station.

All the training the recruits will receive will be ashore for the reason that the Rush-Bagot treaty prohibits this country and Great Britain from placing any more naval forces on the lakes. The United States' full naval allowance under the terms of the treaty is represented by the U. S. S. Michigan.

DEATH OF AN EMINENT ASTRONOMER.

A Paris telegram announces the death of M. Herve A. E. A. Faye, the astronomer. He was the oldest member of the Academy of Sciences, and was born in 1814.

M. Herve A. E. A. Faye has been for some years the "father" of all living astronomers and also of the French Academy of Sciences. He was born at Saint Benoit-du-Sault, in the department of Indre, on October 5, 1814, and consequently at the time of his death was in his 88th year.

Five years ago he celebrated his jubilee of membership of the institute, to which he was elected in 1847, and on which occasion he was feted by his colleagues. The savant continued his researches with almost juvenile activity up to his last year, his scientific works being very numerous and distinguished by the clearness of his exposition.

He was head of the French Nautical Office and president of the official board of the Paris Observatory. In the short lived Rochebouet Ministry, called into office by Marshal McMahon in 1877, he held the portfolio of public instruction.

M. Faye discovered, simultaneously, with M. de Vico, at Rome, on August 22, 1844, a comet in Aquarius, which was rediscovered in California in 1894. The Vico-Faye comet is so faint that, though its period of return is only 1993 days, it has escaped detection on nine successive appearences in the last 50 years.

LETTERS AT DETROIT MARINE POST OFFICE.

To get any of these letters, addresses or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

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Clairmont, H, Castalia
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German, Arthur
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McGraw, Jno-2, Samoa
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Patchon, Geo
Proctor, E M
Palmer, H, Binghampton
Philes, E, Wingate
Peterson, T, Minor
Reid, Andrew
Reynolds, Ed F, 131
Svensson, C, Ashland
Storms, Jas, Brunette
Stevenson, R, Fitch
Stevens, C J
Smalley, Bert, Mederia
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Wray, Frank, Cranage
Wallace, Fred, Siemens
Weber, Max
Wilsen, C, Castalia
Whitney, Jas, Vance.

F. B. DICKERSON, P. M.

THE MAINTENANCE OF LAKE LEVELS.

The Secretary of State, John Hay, has addressed a communication to the British government extending an invitation to join in the formation of an international commission to investigate the Great Lake levels. This was done in accordance with a provision of the river and harbor bill, which authorized the President to take this action. The invitation to Great Britain proposes the appointment of three commissioners to represent the United States and three to represent Canada. One of the commissioners on the part of the United States is to be an engineer from the army, one a civil engineer from private life who is versed in the hydraulics of the Great Lakes, and one a lawyer of experience in questions of international and riparian law. It is probable that the lawyer who will be selected as a member of the commission on the part of the United States will be Harvey D. Goulder, Esq., of Cleveland. Only one other name is mentioned for this appointment, a New York lawyer, but it is thought that Mr. Goulder will be selected if he can spare the time to serve.

Under the provisions of the river and harbor bill, the commission is "to investigate and report upon the conditions and uses of the waters adjacent to the boundary lines of the United States and Canada, including all of the waters of the lakes and rivers whose natural outlet is by the river St. Lawrence to the Atlantic ocean; also upon the maintenance and regulation of suitable levels; and also upon the effect upon the shores of those waters and the structures thereon and upon the interests of navigation by reason of the diversion of these waters from or change in their natural flow; and, further, to report upon the necessary measures to regulate such diversion, and to make such recommendations for improvements and regulations as shall best serve the interests of navigation in said waters."

The commissioners are instructed to report upon the advisability of locating a dam at the outlet of Lake Erie, with a view to determining whether such a dam will benefit navigation. If the dam is deemed advisable they will report the probable cost, and make to their respective governments recommendations looking to the negotiation of a treaty or agreement providing for its construction.

FLOTSAM, JETSAM AND LAGAN.

The first shipment of wheat from Chicago via the lakes was made in 1838. The shipment consisted of seventy-eight bushels.

The Collingwood Ship Building Co. will build two large steel cargo steamers this year, one of which is to be for the Midland Navigation Co.

The range light-house at the end of the north pier at Kincardine, was struck by lightning on Wednesday, and destroyed. Pilots will have to get along without the light until a new house can be built.

The Government has decided to dispose of all the old monitors now laid up at League Island Navy Yard. Experts have decided that they are of no use except for old iron.

The largest tonnage of Iron ore ever handled by the C. & N. W. docks at Escanaba was on July 1, when 82,000 tons was handled. Of this amount 28,000 tons were dumped into the pockets and 54,000 tons were loaded into boats.

The Canadian Court of Admiralty has given the Georgian Bay Navigation Co. $2,183 damages for the injury to its steamer Carmona, as the result of being run into in 1899 by the U. S. steam barge Shenandoah and her tows the Crete and Granada.

The Calvin Co., Garden island, Ont., received $4,000 for releasing the rear end of the schooner Minnewaska from an island in the St. Lawrence rapids, near Cardinal. Half this sum was a premium offered by the owners if the schooner was released in ten days.

Charles Algrin, light-house keeper at Manitowoc, has been requested by the Department to investigate and locate the rock upon which the steamer Tuscarora struck. The information at hand is meagre consisting only of an estimate of the distance at which the rock can be found. The officers of the Tuscarora reported the location at two and one-half miles from shore and four miles south from Manitowoc. As soon as located the rock will be marked or removed by the government.

The following is taken from Clayton on the St. Lawrence: Capt. Frank Kendall, of the steam yacht Cherokee, the private yacht of S. H. Vandergrift, brought to this office a bottle he had found floating in the Canadian channel the day before. Upon a card in the bottle was written these words: "We are wrecked on Tidd's Island. For God's sake save us. Have $20,000 in gold." The message was written on the back of a calling card bearing the name of Lillian Leigh. The odor of the bottle plainly indicated what it had contained, but unfortunately the label had been washed away, as it certainly must be a popular brand of whiskey that one bottle will cause one to feel worth $20,000 in gold.

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NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT.

OFFICE OF THE LIGHT-HOUSE INSPECTOR, TENTH DISTRICT,
BUFFALO, N. Y., July 5, 1902.

NIAGARA RIVER, NEW YORK.

Notice is hereby given that on or about July 10, 1902, Strawberry Island Shoal Buoy, red second class Nun Buoy, No. 14, Niagara river, page 28 List of Beacons,

A. DUNLAP, Commander, U. S. N.

Buoys and Day Marks, 1902, will be moved up stream a distance of about 250 yards and placed in fourteen feet or more of water to mark the extension of the shoal at the upper end of Strawberry Island and the head of Tonawanda channel.

On the same date a black 25-foot spar buoy will be established to mark the end of a shoal extending from the foot of Squaw Island, Niagara river.

The locations of these buoys will be more definitely announced after they shall be in position.

Inspector Tenth Light-House District.

DOMINION OF CANADA.

All bearings, unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

LAKE ERIE—PELEE PASSAGE—LIGHT-HOUSE ESTABLISHED.—The light-house, erected by the Government of Canada on a pier in 13 feet water on the north end of the Middle ground in Pelee passage, Lake Erie, will be put in operation on the 4th July, 1902.

The light-house consists of a steel tower, built in the form of the frustum of a cone, surmounted by a polygonal iron lantern, standing upon a cylindrical steel caisson filled with concrete and masonry, surrounded by a polygonal timber cribwork, rising 5 feet above the water level of the lake. The height of the light-house from the deck of the foundation pier to the vane on the lantern is 66 feet. The pier is brown, the tower white and the lantern red.

The light will be a white light, showing two bright flashes of .58 second duration each, separated by an eclipse of .85 second duration, and followed by an eclipse of 5.48 seconds duration, the total period being 7.49 seconds, thus.

Flash.	Eclipse.	Flash.	Eclipse.
.58 sec.	.85 sec.	.58 sec.	5.48 secs.

The light is elevated 75 feet above the level of the lake, and should be visible 14 miles from all points of approach by water. The illuminating apparatus is dioptric of the third order.

A fog alarm, consisting of a steam siren, located in the base of the tower, will be put in operation on or about 15th July, of which further notice will be given.

DETROIT RIVER—LIMEKILN CROSSING—SOUTH LIGHT-VESSEL REPLACED ON STATION.—On the 31st May, 1902, light-vessel No. 64 was replaced on her station, at the western side of the southern end of Limekiln Crossing dredged channel, lower part of Detroit river, and relief light-vessel No. 63, temporarily marking the station, was then withdrawn.

No change has been made in light-vessel No. 64, as to characteristics of light, fog signal, or general appearance.

UNITED STATES.

LAKE ST. CLAIR—GROSSE POINT.—On or about the 1st July, 1902, light-vessel No. 10 will be withdrawn from this station and the station will be marked, temporarily, by a gas buoy, painted red and showing a fixed white light.

The station will be marked later by light-vessel No. 75, and due notice will be given when the date for placing the vessel on the station can be determined.

The station is located on the southeastern side of the upper end of Lake St. Clair twenty-foot channel.

LAKE SUPERIOR—DULUTH HARBOR ENTRANCE—DANGEROUS SUNKEN WRECK.—The sunken wreck of the steamer Thomas Wilson lies in about 10 fathoms water off Duluth harbor entrance, in a position from which Duluth harbor front light-house bears S. 71° W., distance 4,800 feet. The wreck is in the direct track of vessels entering or leaving the harbor and is a serious menace to navigation. At present the wreck is marked by a red flag flying from the mainmast which projects about 10 feet above water.

F. GOURDEAU, Deputy Minister.

DEPARTMENT OF MARINE AND FISHERIES:

Ottawa, Canada, 25th June, 1902.

Pilots, masters or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notice of new shoals or channels, errors in publications, or any facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada. Such communications can be mailed free of Canadian postage.

TERRITORIAL COMMERCE.

Commerce between the United States and its newly acquired territory is growing with remarkable rapidity. In 1897, the year preceding that in which Porto Rico, Hawaii and the Philippines came under the American flag, the shipments to those islands were, according to the figures of the Treasury Bureau of Statistics, $6,773,560. In 1901 they were over $30,000,000 and in the fiscal year just ended they will be, according to the best figures that the Bureau of Statistics can obtain, fully $35,000,000. To this may be added the estimate of $15,000,000 of shipments to Alaska in the last year. This would bring the total sales of American goods in the non-contiguous territory of the United States up to about $50,000,000 in the last fiscal year against about $10,000,000 in that same territory in 1897.

Considering the figures in detail, the Bureau of Statistics finds that the exports from the United States to Porto Rico, which were, in 1897, $1,988,888, were, in 1900, $4,640,449; in 1901, $6,861,917, and as they were $9,651,000 in the eleven months ending with May, it is safe to assume that the figures for the fiscal year will show a total of over $10,000,000 of shipments to Porto Rico for the year ending June 30, 1902. To Hawaii, the exports in the fiscal year 1897, were $4,690,075; by 1899 they had reached $9,305,470; in 1900, $13,509,148. Subsequent to that time the Bureau of Statistics of shipments to Hawaii are based upon estimates supplied by collectors of customs at San Francisco and Honolulu and are put at $20,000,000 as a conservative figure. To the Philippines the exports in 1897 were $94,597; in 1899 they were $404,193; in 1900, $2,640,449; in 1901, $4,027,064 and in the full fiscal year 1902 will be fully $5,000,000. To Alaska the shipments in 1894 were, according to the best figures that the Bureau of Statistics have been able to obtain, $3,924,000 and for the calendar year, 1901, $13,500,000, and for the fiscal year just ended will probably be $15,000,000, bringing the total shipments from the United States to its non-contiguous territory up to $50,000,000.

On the import side it may be said that the non-contiguous territory of the United States now supplies $50,000,000 worth (per annum) of its product for use in the United States. In 1897 the imports from Porto Rico were $2,181,024; those from Hawaii, $13,687,799; and from the Philippines, $4,383,740. By 1900 the imports from Porto Rico had grown to $3,078,648 from Hawaii, $20,707,903 and from the Philippines, $5,971,208. In the fiscal year just ended the merchandise received from Porto Rico will be in round terms, $7,000,000; from the Hawaiian Islands, $26,000,000; from the Philippines, $7,000,000 and from Alaska about $7,000,000 in fish, furs and other products of this character and an equal amount in gold and silver, thus bringing the total contributions of the non-contiguous territory considerably above $50,000,000.

During the same time commerce with Asia and Oceania has also increased with very great rapidity, especially the exports. In 1897 exports to Asia and Oceania were $61,927,673; in 1900, $108,304,082 and in the fiscal year 1902, the total, including shipments to Hawaiian Islands, will amount to about $120,000,000.

TREASURY DECISIONS—MARINE.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION,
WASHINGTON, D. C., July 1, 1902.

OATHS TO OWNERSHIP OF VESSELS.

To collectors of customs:

The attention of officers of the customs, owners and masters of vessels, etc., is invited to the modifications by the act of June 24, 1902, taking effect on the date of its passage, of sections 4139 and 4314 of the Revised Statutes, relating to oaths as to the ownership of vessels.

The sections as modified are as follows:

SEC. 4139. Previous to granting a register for any vessel owned by an incorporated company, or by an individual or individuals, the president or secretary of such company, or any other officer or agent thereof, duly authorized by said company in writing, attested by the corporate seal thereof, to act for the company in this behalf, or the managing owner, or his agent duly authorized by power of attorney, when such vessel is owned by an individual or individuals, shall swear to the ownership of the vessel without designating the names of the persons composing the company, when such vessel is owned by a corporation, and the oath of either of said officers or agents shall be deemed sufficient without requiring the oath of any other person interested and concerned in such vessel.

SEC. 2. That section forty-three hundred and fourteen of the Revised Statutes of the United States be, and the same is hereby, amended so as to read as follows:

SEC. 4314. Previous to granting enrollment and license for any vessel owned by any incorporated company, or by an individual or individuals, the president or secretary of such company, or any other officer or agent thereof, duly authorized by said company in writing, attested by the corporate seal thereof, to act in its behalf, or the managing owner, or his agent, duly authorized by power of attorney when such vessel is owned by an individual or individuals, shall swear to the ownership of such vessel without designating the names of the persons composing such company, when such vessel is owned by a corporation, which oath shall be deemed sufficient without requiring the oath of any other person interested or concerned in such vessel.

E. T. CHAMBERLAIN, Commissioner.

Approved: LESLIE M. SHAW, Secretary.

Speed Permissible in Fog—"Moderate Speed"—Under article 16 of the international navigation rules, which provides that "every vessel shall, in a fog, mist, falling snow or heavy rain storms, go at a moderate speed, having careful regard to the existing circumstances and condition the term "moderate speed" is a relative one and the time and place and all other circumstances and conditions must be taken into account before judgment can be pronounced on a given rate. Where a vessel with a normal full speed of twelve knots reduced to eight knots or less in a fog, it will be held a moderate speed, where it is shown without contradiction that, owing to her having little cargo and being very light, she could not be properly controlled at a lower rate of speed. The Eagle Point, 114 Fed. Rep. (U. S.) 971.

Steamer and Sailboat.—Where it was found, on evidence which supported such finding, that a sailboat, when being overtaken by a steamer, was on a course nearly parallel to that of the steamer, and at such a distance as to involve no danger of collision if both vessels kept their course the steamer was not in fault for not reducing speed, although, by the navigation rules (20 and 23,) she was required to keep out of the way, and "if necessary, slacken her speed or stop or reverse," since by rule 21 the sailboat was required in such cases to keep her course and speed; and the latter must be held solely in fault for a collision brought about by her changing her course and attempting to cross the steamer's bows, when, on seeing such maneuver, the steamer at once reversed, and did all that was possible to avert collision. Jacobsen et al., vs. Dalles, P. & A. Nav. Co., 114 Fed. Rep. (U. S.) 705.

RIVER AND HARBOR IMPROVEMENTS.

(TREASURY DEPARTMENT OUTLAY.)

In addition to the legislation advanced in the regular River and Harbor Bill, the Sundry Civil Bill has now become a law.

The items contained in the later legislation for the Treasury Department pertaining to aids to navigation and river and harbor improvements as just printed are as follows:

Kewaunee light station, Wis.: For the erection of a dwelling for the keeper of the light-house $5,000.

Saint Martin Island light and fog-signal station, Mich.: For completing establishment of a light and fog-signal station, entrance to Green Bay, Lake Michigan, $10,000.

Tender for the inspector Ninth light-house district: For completing a steam tender for buoy supply, and inspection, $30,000.

Tender for the engineer Ninth light-house dictrict: For completing a new steam tender for construction and repair service, $65,000.

Calumet Harbor, Lake Michigan, Ill.: For the construction of a keeper's dwelling, $7,500.

Peshtigo Reef light-vessel, Wis.: For establishing a light-vessel with a fog-signal at or near Peshtigo Reef, Green Bay, Lake Michigan, Wis., $15,000.

Toledo Harbor light and fog-signal station, Ohio: For completing a light and fog-signal station to mark the outer end of the main channel, $10,000.

Crisps Point light and fog-signal station, Mich.: For the establishment of a light and fog-signal station on or near Crisps Point, Lake Superior, Mich., $18,000.

Grassy Island range light station: For building a dwelling for the keeper of Grassy Island range (Ecorse), Mich., $5,000.

Point au Pelee Passage light-ship: For constructing a modern steel auxiliary steamship with a fog signal, to be established on Southeast Shoal, Point au Pelee Passage, Lake Erie, $45,000.

REVENUE CUTTER SERVICE.

For the completion of one revenue cutter of the third class under the direction of the Secretary of the Treasury, for service on the Saint Mary's river, Mich., $37,500.

ENGINEER DEPARTMENT.

Improving harbor at Buffalo, N. Y.: For continuing improvement, $20,000.

Improving harbor at Cleveland, O.: For continuing improvement, $107,000.

Improving harbor at Duluth, Minn., and Superior, Wis.: For completing improvement, $459,727.50.

Improving waterway from Keweenaw Bay to Lake Superior, Mich.: For completing improvement of water communication across Keweenaw Point, $10.000.

Improving harbor at Ashtabula, O.: For continuing improvement, $200,000

Improving harbor at Black river, O.: For continuing improvement, $300,000.

Improving harbor at Calumet, Ill.: For continuing improvement, $215,000.

Improving Detroit river, Mich.: For completing improvement, $136,500.

Improving Hay Lake Channel, Saint Mary's river, Mich.: For completing improvement, $144,115.

Improving harbor at Toledo, O.: For continuing improvement, $223,000.

LIGHT-HOUSES AND FOG-SIGNALS.

To enable the Secretary of the Treasury, under the supervision of the Light-House Board, by contract or otherwise, to maintain a light-ship on Southeast Shoal, Point au Pelee Passage, Lake Erie, $4,000.

Conneaut Harbor light station, O.: For constructing a light-house on the new pier head for the front light, and to raise the existing structure on the old pier head to a proper height to have it serve with the proposed new front light as a range for vessels approaching Conneaut Harbor, $8,400.

Ashtabula Harbor light station, O.: For establishing a light and fog-signal station on the new pier head at the end of the west breakwater, $18,000.

MAINTENANCE OF LIGHTS ON CHANNELS OF GREAT LAKES.

To enable the Secretary of the Treasury, under the supervision of the Light-House Board, by contract or otherwise, to maintain lights necessary for the safe navigation of those channels in the connecting waterways of the Great Lakes, which have been constructed or artificially improved by the Government of the United States, where the same can not properly be lighted from the American side, $4,000.

LIFE-SAVING SERVICE.

For one superintendent for the life-saving and life-boat stations on the coasts of Lakes Ontario and Erie, $1,800.

For one superintendent for the life-saving and life-boat stations on the coasts of Lakes Huron and Superior, $1,800.

For one superintendent for the life-saving and life-boat stations on the coast of Lake Michigan, $1,800.

For pay of crews of surfmen employed at the life-saving and life-boat stations, including the old Chicago station, at the uniform rate of sixty-five dollars per month each during the period of actual employment, and three dollars per day for each occasion of service at other times; compensation of volunteers at life-saving and life-boat stations for actual and deserving service rendered upon any occasion of disaster or in any effort to save persons from drowning, at such rate, not to exceed ten dollars for each volunteer, as the Secretary of the Treasury may determine; pay of volunteer crews for drill and exercise.

LATEST MARINE PATENTS.

703,363.—Blank for Life Preservers. Hachig A. Ayvad, Hoboken, N. J.

703,400.—Fog-horn. Ernest A. Gill, Gloucester, Mass.

703,413.—Construction of Composite Vessels. Edward Hayes, Wolverton, England.

703,487.—Marine Brake. Henry Simpson, Liverpool, England.

703,664.—Boat-lashing Device. Swen Nilson, Boston, Mass.

703,713.—Safety Releasing Device for the Sheets of Boats, Tow Lines, Etc. Charles Smith, South Croydon, and George J. Hone, Romford, England.

703,739.—Anchor.—Jacob E. Rech. Philadelphia, Pa.

EASTERN FREIGHTS.

Messrs. Funch, Edye & Co., New York, reports the condition of the eastern freight market as follows:

"Whilst continued rains in the agricultural section of our country have given speculators the opportunity to drive up grain prices, thereby prohibiting new business, it is not generally believed that any serious damage has been done to the wheat crop, whilst it is admitted that the growing crop of maize has been materially benefitted by the wet weather, and if this cereal is henceforth favored by warm and forcing conditions, there is every prospect that this country will produce a phenomenal crop of maize. If wheat has been injured it cannot effect the quantity, and any deterioration in the quality is apt to produce prices which are likely to favor the export of the cereal. Cotton crops continue to promise well and altogether the outlook for next season's export movement of the products of the soil is most promising. In the meanwhile the advanced prices are checking business almost altogether, and there is practically no demand for early tonnage in any direction. Charterers for deals from the British Provinces, and timber from the Gulf appear to have filled their most pressing requirements, and it is difficult to secure charters of this description. Whilst the coal situation appears somewhat more favorable, exporters are not yet prepared to extend their operations until the strike question has been definitely settled.

As regards sail tonnage, the only item of interest has been the fixtures of case oil vessels at a further decline in rates. The market generally remains stagnant, the low rates prevailing apparently being no inducement to shippers or owners.

Grain to Glasgow, 2 cents; to Liverpool or London, 3 cents; Bristol, 3½ cents, and Hull or Leith, 4 cents.

REPORTED BY THE LOOKOUT.

The Emperor of Russia has expressed his entire satisfaction with the warships built by the Cramps.

It is now given out that the revenue cutter Tuscarora, approaching completion at Richmond, Va., will not reach Milwaukee until the advent of the fall season.

The builders' trial trip of the American steamer Nebraskan, built for the American-Hawaiian Steamship Co., by the New York Ship Building Co., of Camden, was made on Wednesday, and was successful in every particular.

The speed trial of the new steamer Tremont, built by the Maryland Steel Co., of Sparrows Point, Md., for the Boston Steamship Co., was made last week, and was successful. The Tremont developed a speed of 13.57 knots, which was more than the speed guaranteed in the contract.

Ore receipts at Erie, Pa., for the first three months of the season aggregated 525,000 tons, breaking all previous records for Erie. It is fully 50 per cent. greater than in many former years. Receipts and shipments of merchandise have been correspondingly large. By months the ore receipts have been as follows: April 118,000 tons. May 185,000 tons, June 222,000 tons.

The London Board of Trade has awarded a handsome piece of plate to Capt. Freeman, of the British steamer Roddam, in recognition of his gallantry at St. Pierre, Martinique, when that town was destroyed. The steamer Roddam was almost completely wrecked and the majority of the crew lost their lives in the eruption of Mont Pelee, which destroyed St. Pierre, May 8. Capt. Freeman, who was badly burned, succeeded in bringing the first news of the disaster to Col. Lewis Aymo, consul at St. Lucia.

W. A. Reid, secretary of the Skagway Y. M. C. A., has returned to Tacoma, Wash., from the interior of Alaska, where he talked with Indians whose earnest statements he believes fully confirm the previous reports that the Indians of the Lower Yukon have discovered a petrified ship 1,200 feet long on the Porcupine river, near Arctic circle and north of Rampart, Alaska. Indians familiar with the Bible are convinced that the ship is none other than Noah's Ark. It is located near the top of a high hill thousands of feet above sea level.

Any and all men "before the mast" take exception to the term so regularly and glibly used by shore people. When designating their work on shipboard it is usual for landlubbers to call Jack a "common sailor," and this goes against his grain, he is willing to acknowledge at all times that he is a sailor, whether he is or not, but the common part of it seems to stick in his gizzard, as if the word uncommon was applied or intended. An A. B. seaman is common enough, goodness knows, he is willing to admit and is aware if it, but the common becomes the uncommon in the ears of Jack at all stages of the word, how, when, or wherever applied.

In the case of the action of the schooner J. F. Card, registered at Detroit, against the steamer Hiawatha, hailing from Cleveland, an action for damages sustained in a collision between the two off Thunder Bay on May 12, 1900, during a fog, Justice McDougall has rendered an exhaustive judgment in which he finds that both the schooner and the steamer were running at an immoderate rate of speed, and that, therefore, the schooner can recover only one-half the amount of damage she sustained. If the parties cannot agree upon this amount the same will be decided by the court after hearing evidence. The case was first tried at Sandwich last February. A. H. Clark and A. H. Bartlet of Windsor, for the Card and W. D. McPherson, of Toronto, for the Hiawatha.

JAMES SPENCE ROBERTSON.

If JAMES SPENCE ROBERTSON belonging to Dundee, Scotland, who was, it is believed, about 1889 in Tawas City, Michigan, U. S., and who was, it is understood, latterly acting as a Steward on a Lake Steamer running out of Bay City, Michigan, U. S , will communicate with the Subscribers, he will learn something to his advantage.

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Minnesota Iron Co.'s steamer Presque Isle.

American Steel Barge Co.'s steamer Alex. McDougall.

Lake Michigan & Lake Superior Transportation Co.'s steamer Manitou.

Bessemer Steamship Co.'s steamers S. F. B. Morse and Douglas Houghton.

American Transportation Co.'s steamers John Harper and Alex. Nimick.

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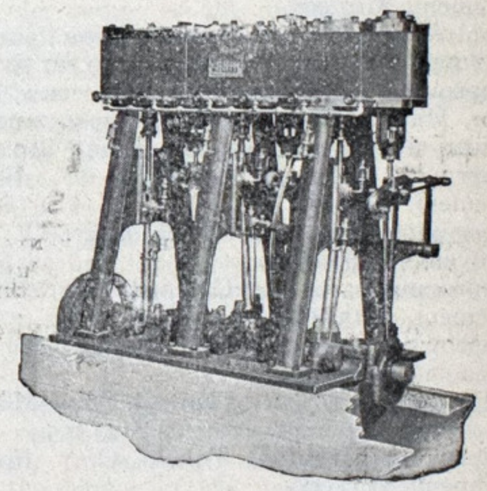

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LAKE FREIGHTS.

Iron ore is still king, and the backbone of the carrying trade as well as the ruler of lake freights. There is some detention being experienced at both loading and discharging ports, principally the latter, but every possible effort is being made to keep up with the rush, for that is really what is being done in the ore carrying trade now as in the earlier part of the season, and at the initial or opening rates of freight on the basis of 75 cents from the head of Lake Superior, and 55 cents from Escanaba to Ohio ports.

Lumber is not being sent forward as brisk as anticipated, and it has been found necessary to call a meeting of the lumber carriers to stiffen up the standard $2.50 rate per M feet from the head of the lakes with promised raise to $3 on September 1st. There seems enough tonnage to carry all the lumber offered and there must be much brisker shipping before any more lumber carriers are placed in the trade again. The weakest link in the lumber freight situation is the ownership of tonnage by shippers and consignees.

Coal freight rates are steady with fair chartering at Ohio ports for Lakes Michigan and Superior, and not much is being said about moderate detention at loading ports. Small vessels chartered at 27½ cents, Cleveland to Sandwich, Ont., Port Huron 30 cents, "Soo" 35 cents.

Grain freights are in anything but a satisfactory condition, and 1⅛ cents on corn is offered from Chicago to Buffalo, and while the corner on corn is on no change is likely to take place. Wheat from the head of Lake Superior was offered at 1¾ cents to Detroit, with vessels asking 2 cents, however freights, like shipments, are almost nominal.

Capt. H. A. Fifield, one of the pioneer captains of the lakes, died at Toledo last Thursday. The deceased was 74 years of age and leaves, besides a wife, one son, Harry D. Fifield, a marine engineer. Capt. Fifield was born at Painesville, O., on October 22, 1827. He began sailing at the age of 14. In 1852 he took up a family residence at Fairport, O. In the latter fifties he removed his family to Cleveland, where it was maintained until 1878, when he moved to Toledo, where he lived at the time of his death. Capt. Fifield was extensively known throughout the lake region though for the past six years he has been out of active service.

AN OBSTINATE GROUNDING.

Operations are still going on to effect the release of the side-wheel passenger steamer City of the Straits, which went hard aground last Friday morning near the inner red can buoy at Toledo. A channel has been dredged all around the steamer and the tugs Woods and Tuthill, of the Great Lakes fleet, under the supervision of Capt. Nagle, are trying to get the Straits out of the mud. They are employing what is known as the sawing method. A heavy chain is placed under the boat and then a tug is attached to each end of the chain, which is gradually worked back and forth, pulling the mud from under the boat. This is rather slow but in this instance is considered the only thing that could be done. General Managar W. J. Brown, of Detroit, has estimated that it will cost between six and seven thousand dollars to release the boat and meet detention expenses.

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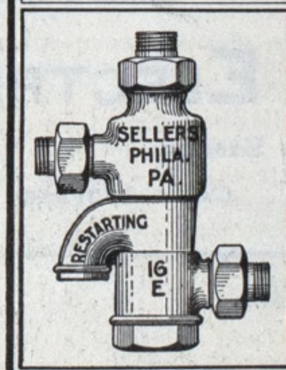

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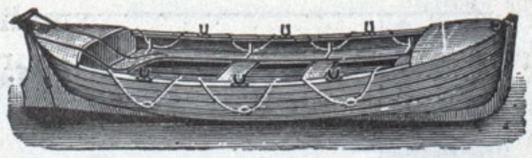

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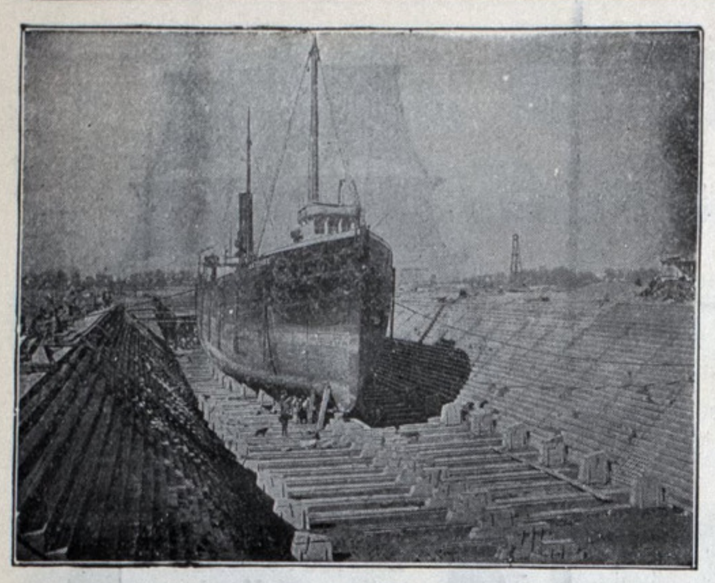

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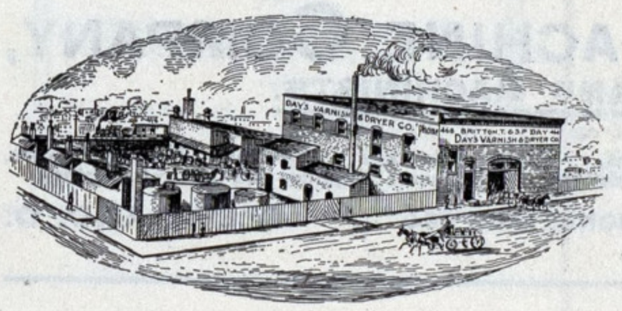

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